CLINICAL STUDY BRIEF

Reduction in Tissue Processing Turnaround Time Without the Use of Heat

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Tissue processing is the procedure in anatomy pathology to replace the water in tissue with paraffin. This critical step in the process can preserve the tissue long-term. However, tissue processing is time-consuming and often requires more than 14 h. Revos innovative features, such as the canted retort with patented rotational agitation, enable tissues to be processed more rapidly while maintaining molecular quality.

Epredia™ Revos™, an automated tissue processor that was designed for all types of tissue processing. Revos processed a wide variety of surgical specimens with grossing thicknesses ranging from 2 mm to 8 mm in this study. The results indicated that Revos optimally processed 2 mm of non-fat-rich tissues and 3 mm of all tissues utilizing protocols ranging from two to five hours, including a 7-hour protocol with surgical specimens up to 6 mm in thickness, optimally processed with a 7-hour protocol. All tissues processed showed good H&E and Immunohistochemical stains. The protocol of rapid tissue processing using the Revos automated tissue processor has reduced turnaround time by approximately 50%.

Heat is commonly used to process tissues at a faster rate. However, heating over 35 ºC could adversely damage the protein (Horobin et al., 1998), DNA, and RNA of tissues (Srinivasan et al., 2022). Interestingly, unlike other conventional rapid tissue processors, which apply heat to 90 ºC, the Revos automated tissue processor did not solely depend on heat to achieve rapid processing.

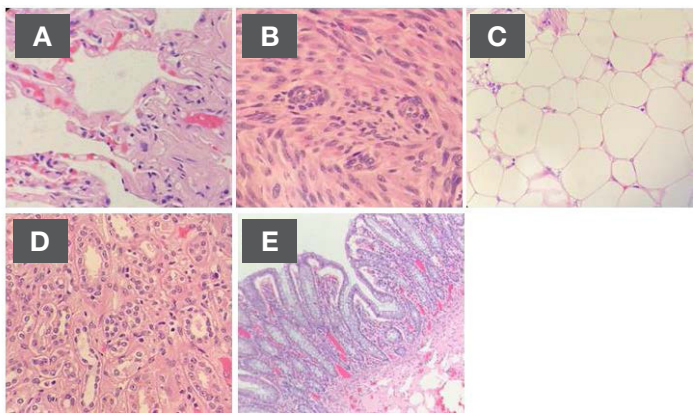
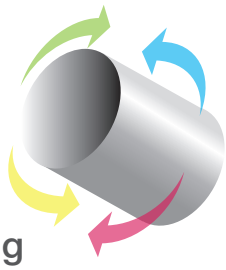


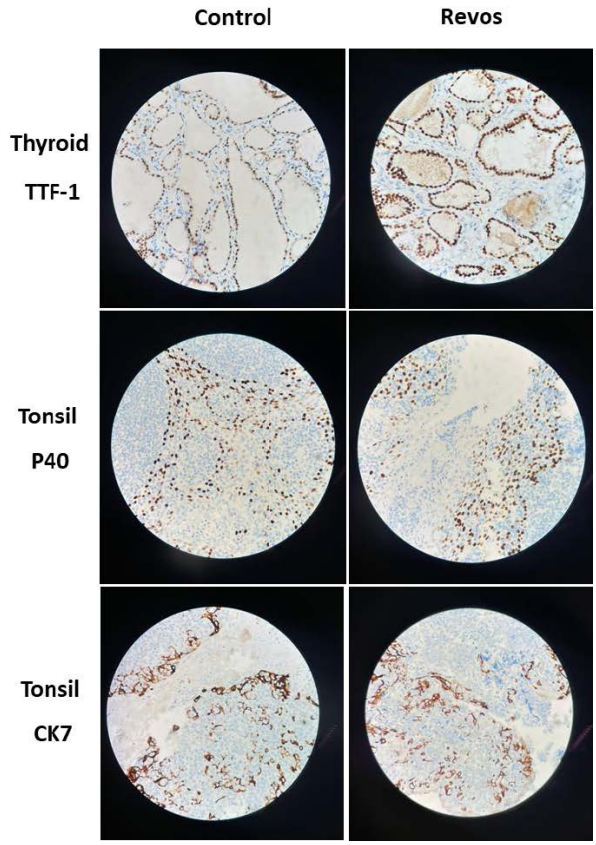
Figure 1. H&E staining of tissues that were processed with 7h protocol. The tissues were (A) lungs, (B) fibroid, (C) lipoma, (D) kidney and (E) colon. All tissues were stained well and shown good microscopic structures.

epredia

Rapid processing



The Revos tissue processor's unique, **canted chamber enhances reagent distribution, reduces tissue processing time**, and allows for **high-quality processing results**.



The Revos tissue processor's design is optimized for both routine and rapid processing.

Figure 2. The IHC staining of control tissues that were routinely used by the IHC team at Sunway Medical Centre Laboratory (namely Control) and IHC staining of tissues processed using the Epredia Revos tissue processor (namely Revos). The IHC staining location and intensity were insignificantly different between Control and Revos. The IHC result indicated that the effectiveness of Epredia Revos automated tissue processor in preserving the protein structure in preserving the protein structure and antigenicity of specimens.

Epredia Revos Tissue Processor

- **Quality**
- **Consistency**
- **Ease of use**

To learn more about the Epredia Revos instrument's unique processing solution visit **epredia.com** or contact your sales representative for more information

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